

TWO NEW SPECIES OF *MOMPHA* FROM CALIFORNIA (LEPIDOPTERA: MOMPHIDAE)

RONALD W. HODGES

Systematic Entomology Laboratory, ARS, USDA,
%National Museum of Natural History, MRC-168,
Washington, D.C. 20560

Abstract.—Two new species of *Mompha*, *franclemonti* and *powelli*, from California are described to provide names that support long-term biodiversity studies of natural areas in California. *M. powelli* was reared from *Zauschneria californica* (Onagraceae).

Specimens of an undescribed species of *Mompha* were collected during a long-term survey of Lepidoptera of Big Creek Reserve, Monterey County (one of the University of California's natural land reserves) by Jerry A. Powell (UC Berkeley). Subsequently, a closely similar, but slightly smaller species of *Mompha* was collected in the hills immediately east of San Leandro, Alameda County. The second species later was reared from *Zauschneria californica* Presl, Onagraceae. To make a name available for his planned report and to document some of the diversity within *Mompha* both species are described.

The new species are black marked with white and are most similar to *Mompha metallifera* (Walsingham). In the National Museum of Natural History's (USNM) insect collection several, mainly eastern, specimens also are very similar to *metallifera*, including a series reared from *Cuphea viscosissima* Jacquin, Lythraceae (as *C. petiolata*) by Annette F. Braun and incorrectly determined as *metallifera*. This species proved to be undescribed. I have not found any other male specimen whose genitalia match those of the holotype of *metallifera*. After dissecting males (females are not well represented) of most of the miscellaneous specimens, I find that no less than 12 species are present. Only three of them have names: *metallifera*, *argentimaculella* (Murtfeldt), and *annulata* (Braun). Careful study of color pattern leads me to believe that separation of these species on this basis may be impossible or extremely difficult. Sexual dichromatism occurs in the series reared by Braun: males have the distal ½ of the antenna uniformly black; females have the distal three segments white preceded by black segments.

My initial intent was to analyze these similar-appearing species, prepare an identification key, and illustrate the genitalia of each entity. This proved to be too large a project for the present purpose and thus is deferred until a thorough study can be made of nearctic *Mompha*. My preliminary study of this genus leads me to suspect that the fauna may be more than 100 species and have several cryptic species' complexes.

***Mompha franclemonti*, new species**
Figs. 1, 3, 5

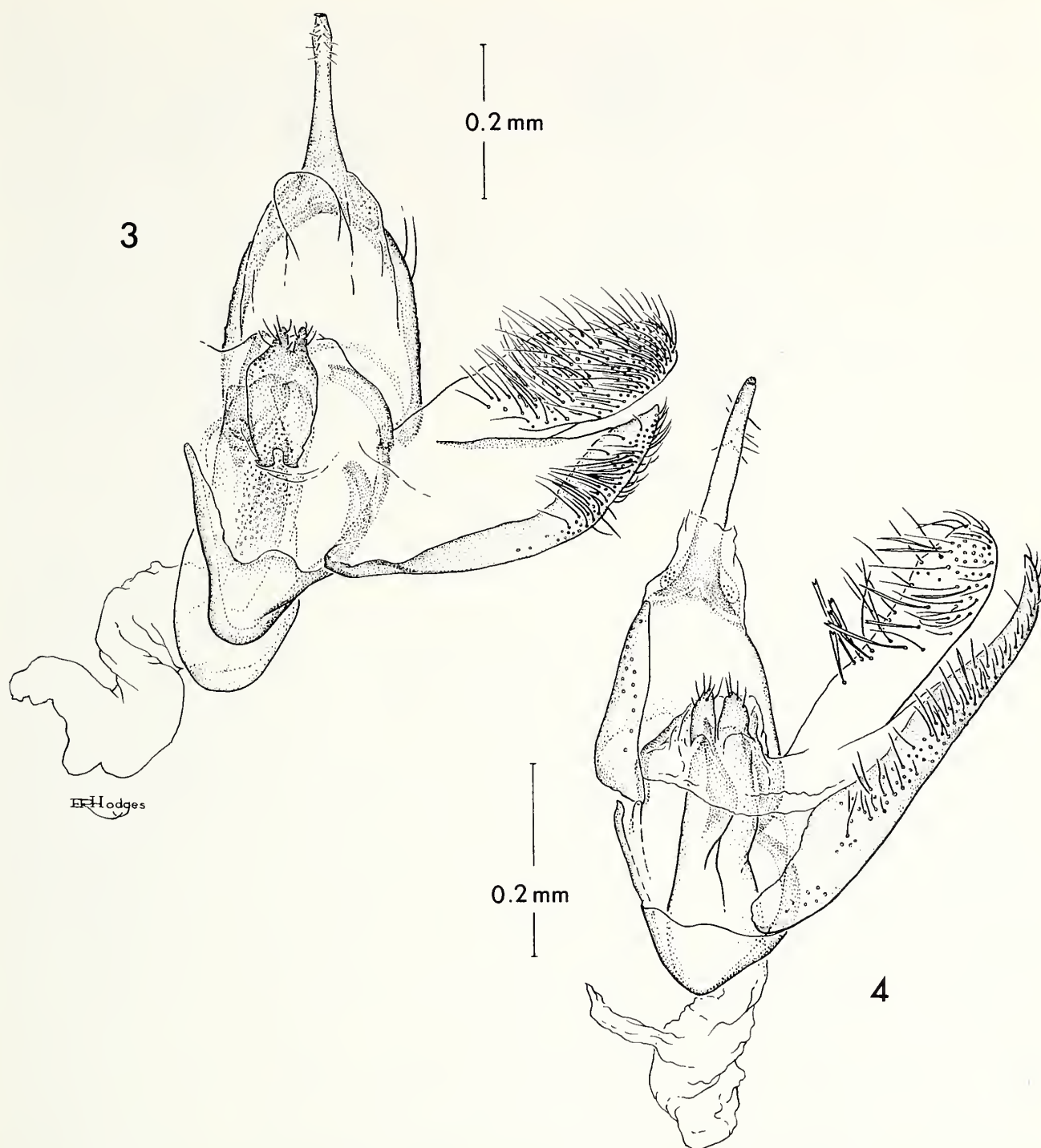
Diagnosis. A superficially very dark-gray moth having shining silver transverse fasciae, one at $\frac{2}{5}$, $\frac{4}{5}$, and $\frac{5}{6}$ forewing length. All surfaces, except ventral surface of



Figs. 1-2. Photographs of *Mompha* species. 1. *M. franclemonti*, n. sp., holotype ♂. 2. *M. powelli*, n. sp., holotype ♂.

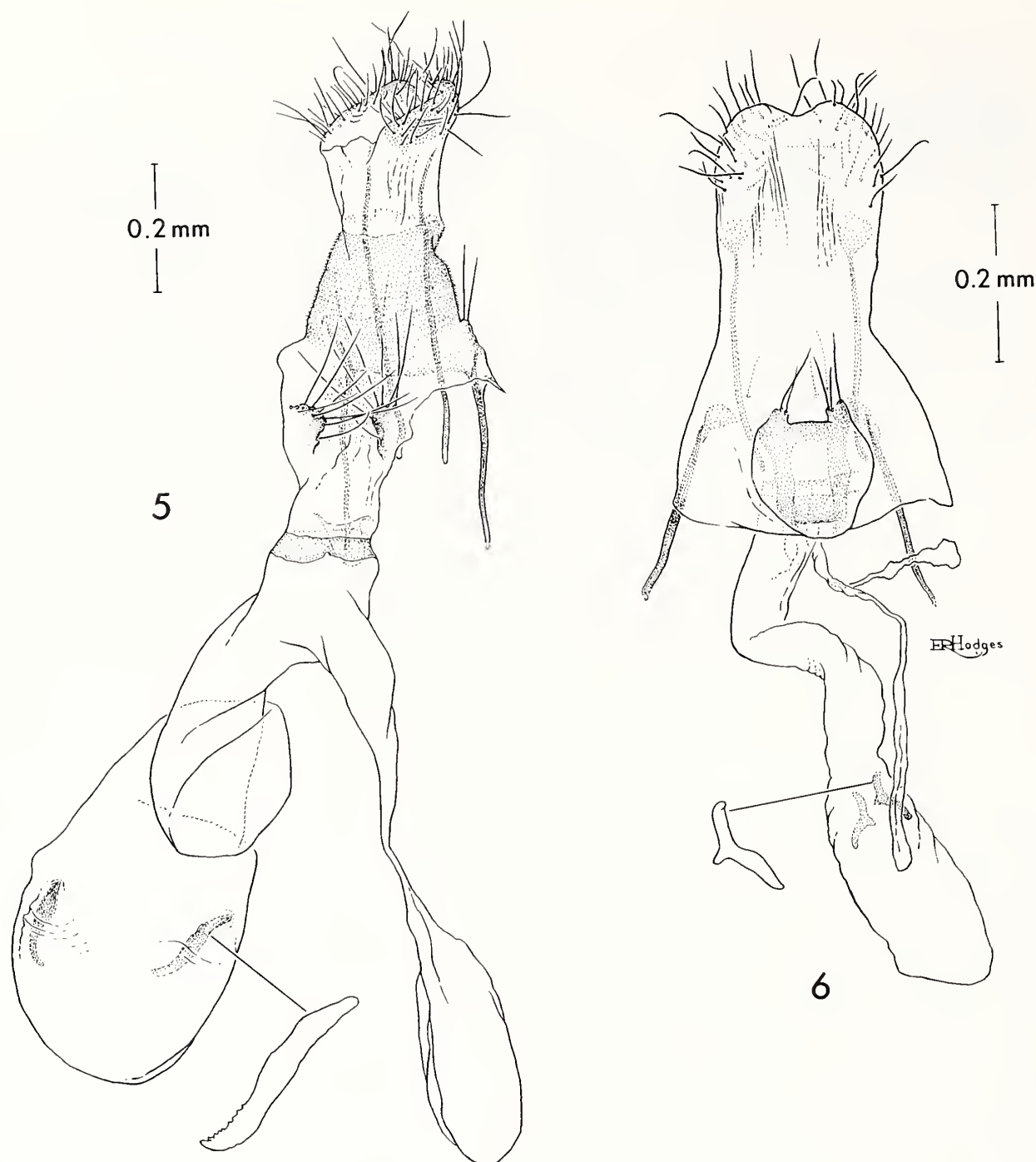
fore- and hindwings and white areas, with shining reflections, usually mainly silvery but sometimes with yellow or yellow-gray cast. *Mompha franclemonti* is most similar to *M. powelli* but differs as follows: 1) The mesial surface of the labial palpus is paler than the lateral surface and the pale-gray tipped scales are less contrasting on the mesial surface than the lateral surface (*franclemonti*); the mesial and lateral surface of the labial palpus are similarly shaded and hued, and the pale-gray to off-white areas of the scales are large (*powelli*). 2) The forewing has many, small white dots (*franclemonti*); the forewing lacks white dots (*powelli*). 3) The aedoeagus has a nearly parallel-margined, very broadly rounded cornutus and a sclerotized band with tooth-like projections (*franclemonti*); the lateral margins of the cornutus taper within the distal $\frac{1}{2}$ to a slender, rounded apex (*powelli*). 4) The distal lobes of the juxta are separated mesially by a U-shaped area and appear like a pair of nipples (*franclemonti*); the distal lobes of the juxta are separated by a very narrow, V-shaped area, are broad basally and taper laterally within the distal $\frac{1}{3}$ to a rounded apex (*powelli*).

Description. Head: Haustellum very dark gray with a few pale-gray tipped scales basally, becoming naked and yellowish distally. Labial palpus medium gray mesially, dark gray laterally, many scales tipped with pale gray on second segment and off-white on third segment. Frons nearly black with shining metallic silver reflections; vertex and occiput dark gray with shining metallic silver reflections; scales behind eye nearly black. Antenna very dark gray, distal segment gray preceded by $1\frac{1}{2}$ very dark-gray segments (more pronounced on ventral surface), then somewhat irregularly alternate $\frac{1}{2}$ segments gray and very dark gray. Thorax: Tegula very dark gray basally, gray distally; meso- and metathorax very dark gray. Foreleg mainly very dark gray becoming darker distally, apex of tibia with a few slightly paler scales, apexes of first



Figs. 3–4. Male genitalia of *Mompha* species. 3. *M. franclemonti*, n. sp., paratype, USNM genitalia slide 86613. 4. *M. powelli*, n. sp., paratype, USNM genitalia slide 86611.

four tarsomeres white, apex of fifth tarsomere gray. Midleg as for foreleg but tibia with a faint, gray transverse fascia at $\frac{1}{2}$ length and prominently white at apex. Hindleg as for midleg but with prominent, transverse, white fascia at $\frac{1}{2}$ length and spurs mainly white with some gray areas. Forewing mainly very dark gray with prominent salt-and-pepper pattern caused by a small white area just before the apex of many individual scales or at the apex of scales on the distal part of the wing; a patch of raised scales on the fold at $\frac{1}{2}$ wing length and one on the posterior $\frac{1}{2}$ of the wing just beyond $\frac{4}{5}$ wing length, a diffuse zone of silver-colored scales at base of wing, a silver, transverse fascia at $\frac{2}{5}$ wing length, another at $\frac{4}{5}$ wing length, and a curved



Figs. 5–6. Female genitalia of *Mompha* species. 5. *M. franclemonti*, n. sp., paratype, USNM genitalia slide 15992. 6. *M. powelli*, n. sp., paratype, USNM genitalia slide 86612.

silver band on the outer margin of the wing; fringe at apex of wing preceded by a narrow black line, then white dots, then a black area with scattered white dots, fringe in tornal area medium to pale gray; undersurface different shades of gray; length 3.0–4.0 mm. Hindwing medium to pale gray on dorsal and ventral surfaces. Abdomen: dorsal surface mainly very dark gray, prominently shining silvery gray laterally and on posterior margin of several segments, mesial parts of terga 3–5 with yellowish gray to orange gray; ventral surface very dark gray, apex of sterna broadly shining white or silver white, eighth sternum mainly dark with a few white scales mesially. Male genitalia (Fig. 3): anterior margin of costal lobe of valva arising from base of valva, continuing as heavily sclerotized transtilla, maximum width of costal

lobe $0.75 \times$ width of valva at base; transtilla incomplete, not meeting mesially; aedoeagus with very broad, distal cornutus that is broadly rounded distally and with a diffuse sclerotized band bearing many denticular projections; juxta with pair of short lobes distally. Female genitalia (Fig. 5).

Etymology. Named in honor of my long-time friend and mentor, John G. Franclemont.

Holotype. ♂, USA. California: Monterey Co.: Big Creek Reserve, UCNLWRS, mining ridge, 80–180 m, sage chapparal, 21/23 III 1989, F. Hsu, J. Powell; deposited in the University of California, Berkeley, Entomology Museum.

Paratypes. Same data as holotype, USNM genital slides 15991, 15992, 86613, RWHodges slide 5140, 13 ♂♂, 2 ♀♀ (UCB, USNM). Same locality as holotype, 21/22 II 1988, J. A. Powell, 1 ♂ (UCB).

Mompha powelli, new species

Figs. 2, 4, 6

Diagnosis. Superficially, *powelli* is similar to *franclemonti* but differs as indicated under *franclemonti*.

Description. Head: Haustellum shining pale gray becoming yellowish gray distally. Labial palpus medium gray, most scales of second and third segments broadly tipped with pale gray. Frons and vertex shining silver gray, occiput very dark gray with shining yellow reflections, row of scales behind eye very dark gray to shining gray. Antenna very dark gray, most scale bases slightly paler than apices. Thorax: Tegula, meso- and metathorax very dark gray. Foreleg mainly very dark gray; coxa prominently shining silver gray; apices of many scales on femur and tibia pale gray, apex of epiphysis with a few off-white scales and apex of tibia white; apex of tarsomeres one, two, and four white. Mid- and hindlegs much as for foreleg but scales of femur and tibia without pale apices, tibia with a prominent white fascia at $\frac{3}{5}$ length. Forewing mainly very dark gray, scale bases often slightly paler gray, a diffuse zone of translucent silver-colored scales at base, a prominent shining silver fascia at $\frac{2}{5}$ length and one at $\frac{3}{4}$ length, a shining silver spot on posterior margin at $\frac{1}{2}$ length, a few silver scales on anterior margin at $\frac{1}{2}$ length, and a band of shining silver scales paralleling distal margin; a patch of raised scales on the fold at $\frac{1}{2}$ the wing length and another on the posterior margin at $\frac{3}{5}$ length; a few pale-gray tipped scales on posterior $\frac{1}{3}$ of wing before first silver fascia; fringe at apex of wing gray preceded by a narrow black line, then white dots, then a black area with scattered white dots, fringe in tornal area medium to pale gray; undersurface mainly medium to pale gray; length 2.7–3.7 mm. Hindwing medium to pale gray on dorsal and ventral surfaces. Abdomen: as for *franclemonti*. Male genitalia (Fig. 4): anterior margin of costal lobe of valva arising from base of valva, continuing as heavily sclerotized transtilla, maximum width of costal lobe approximately $0.50 \times$ width of valva at base; transtilla incomplete, not meeting mesially; aedoeagus with large distal cornutus, lateral margins tapering within distal $\frac{1}{2}$ to slender, rounded apex; lobes of juxta broad, mesial margins slightly diverging, lateral margins angled mesially at $\frac{1}{2}$ length to rounded apex. Female genitalia (Fig. 6).

Etymology. Named in honor of the collector and colleague, Jerry A. Powell.

Holotype. ♂, USA. California: Alameda Co.: Fairmont Ridge, SE of San Leandro,

3 V 1989, J. Powell; J. Powell No. 89E6, emgd. 28 v 1989, reared from *Zauschneria calif.[ornica]*; deposited in the University of California, Berkeley, Entomology Museum.

Paratypes. Same data as holotype but emerged 24–29 V 1989, USNM genitalia slide 15990, 4 ♂♂, 4 ♀♀. Same locality as holotype, 19 iv 1989, J. Powell; J. Powell No. 89D33, emgd. 9–22 V 1989, reared from *Zauschneria calif.[ornica]*, USNM genitalia slides 15989, 86611, 86612, 5 ♂♂, 4 ♀♀. Same locality as holotype, 3 V 1989, 31 VIII 1989, J. Powell, 10 ♂♂, 6 ♀♀ (UCB, USNM).

Distribution. An additional specimen of *powelli* was collected at Whittier, Los Angeles Co., California on 4 III 1911 by P. H. Timberlake. It is not included in the type series, but study of the male genitalia (USNM genitalia slide 5324) shows it to be conspecific.

ACKNOWLEDGMENTS

I thank Jerry A. Powell (University of California, Berkeley; UCB) for allowing me to study material collected by him; my wife, Elaine R. S. Hodges, for the line drawings of genitalia; Douglas C. Ferguson for the photographic prints and review of the manuscript; and Don R. Davis, Richard C. Froeschner, and Arnold S. Menke for review of the manuscript.

Received 11 July 1991; accepted 1 November 1991.